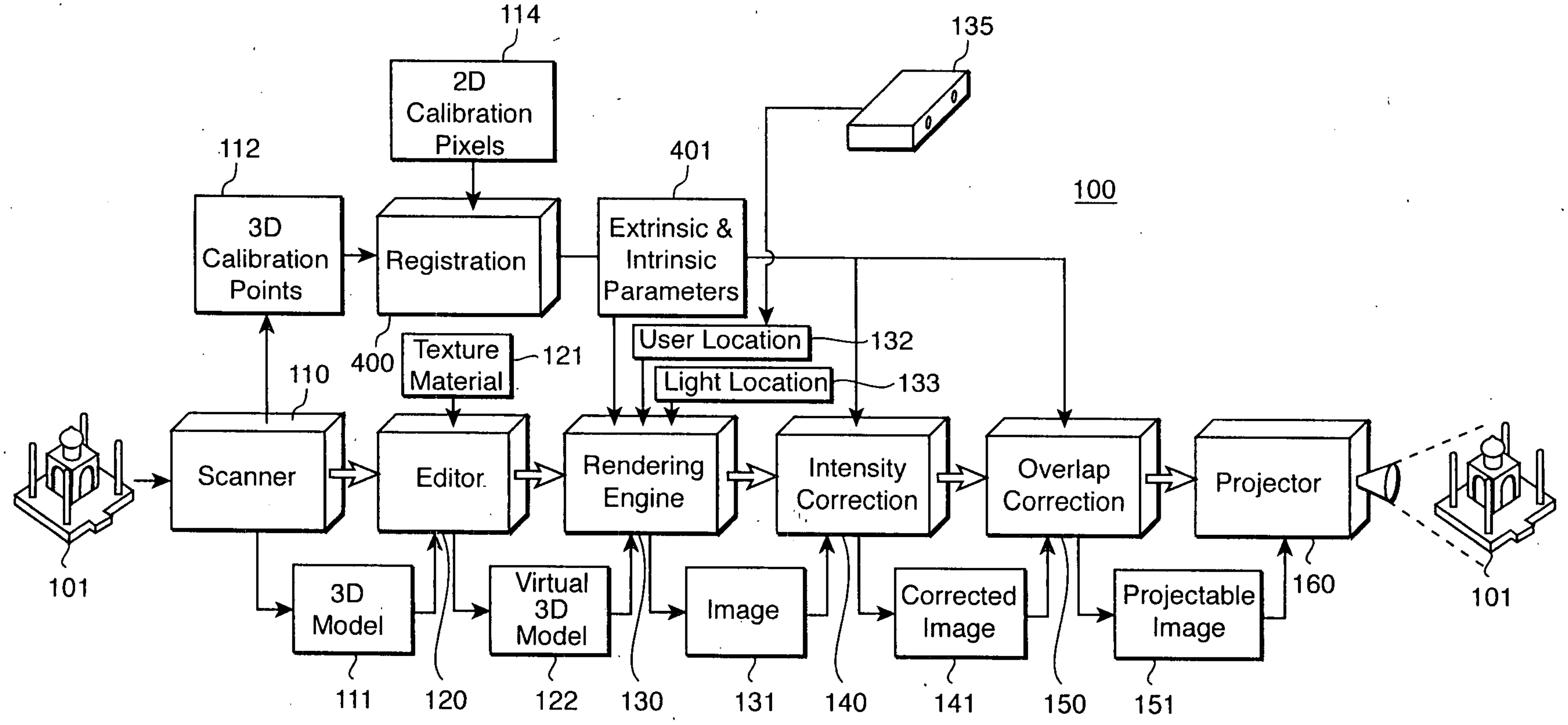
114
2D Calibration Pixels
135
112
3D Calibration Points
Registration
401
Extrinsic & Intrinsic Parameters
100
400
Texture Material
121
User Location
132
Light Location
133
110
101
Scanner
Editor
Rendering Engine
Intensity Correction
Overlap Correction
Projector
101
3D Model
Virtual 3D Model
Image
Corrected Image
Projectable Image
160
111
120
122
130
131
140
141
150
151

FIG. 1

```
glMatrixMode( GL_PROJECTION );
glLoadMatrix( intrinsic matrix of projector );
glMultMatrix( xform for rendering view )
glMultMatrix( inverse(xform for shading view) );
glMatrixMode( GL_MODEL VIEW );
glLoadMatrix( xform for shading view );
// set virtual light positon(s)
// render graphics model
```

200

FIG. 2

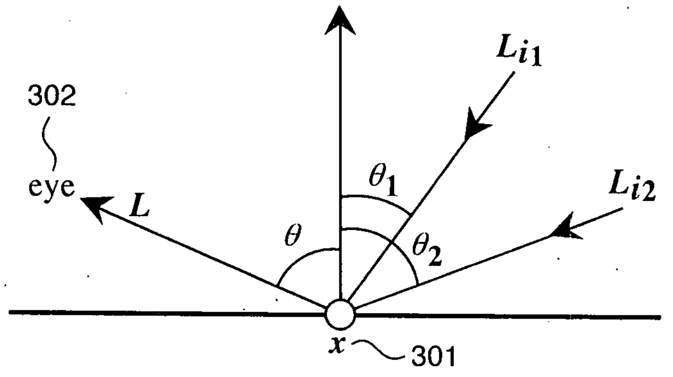

FIG. 3a

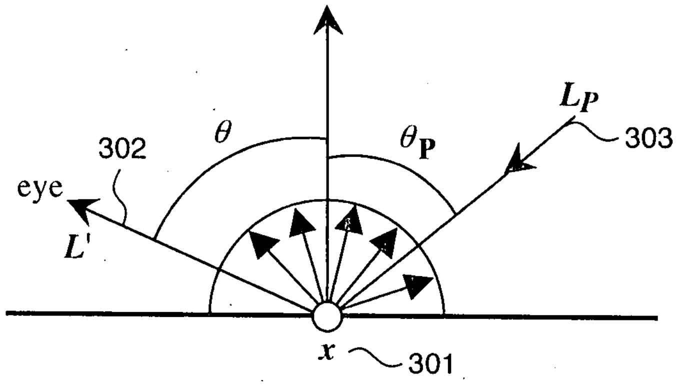

FIG. 3b

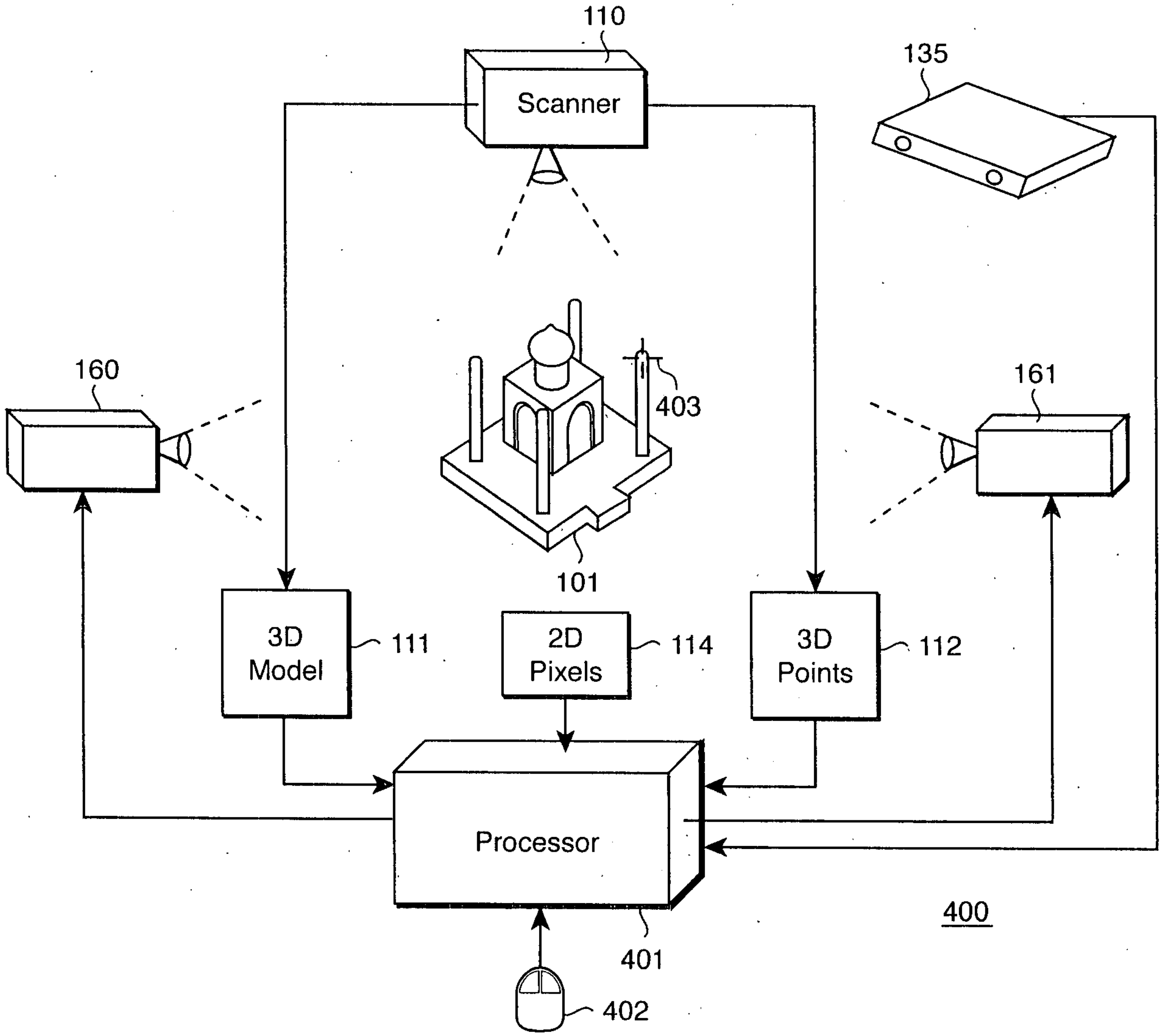
110
Scanner
135
160
403
161
101
3D
Model
111
2D
Pixels
114
3D
Points
112
Processor
400
401
402

FIG. 4

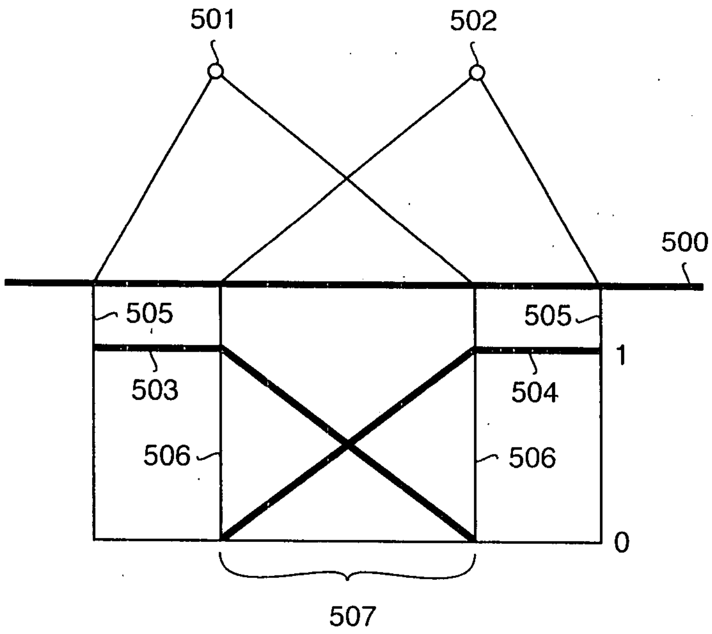

FIG. 5
PRIOR ART

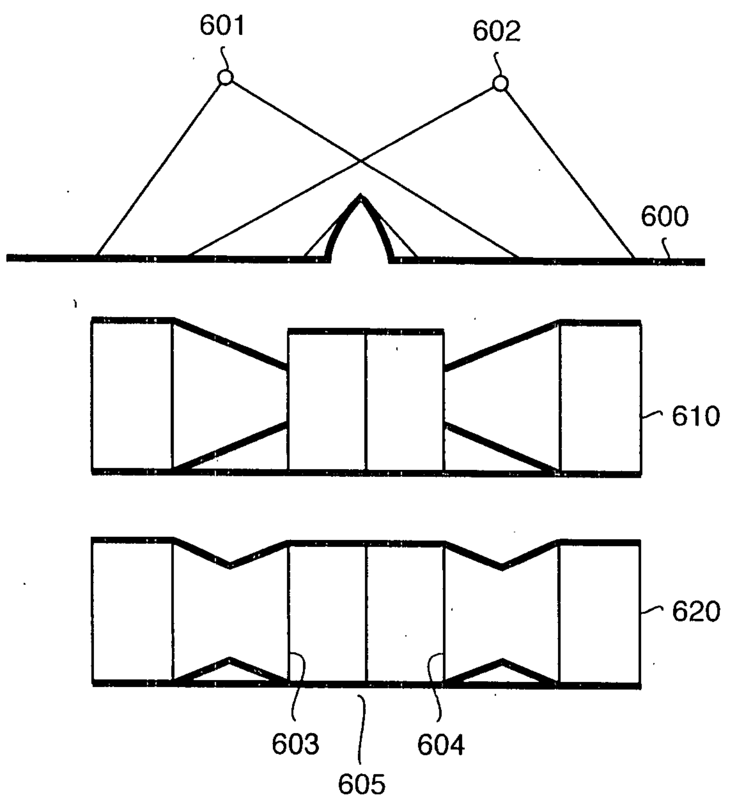

FIG. 6

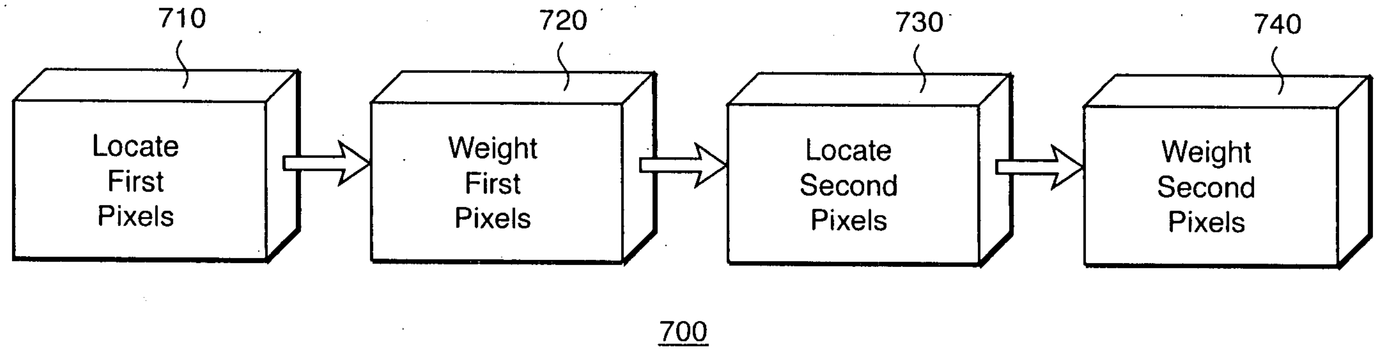
710
Locate First Pixels
720
Weight First Pixels
730
Locate Second Pixels
740
Weight Second Pixels
700

FIG. 7

```
At each projector,
    Compute boundaries between regions of overlap count 1 and >1
    Compute depth discontinuities using edge detection in depth buffer
    For each pixel in overlap region
        update shortest distance to overlap count = 1 region ignoring
            paths crossing depth discontinuity

At each projector,
    For each pixel in overlap region
        Find all corresponding pixels in other projectors
        Assign weights inversely proportional to the shortest distance
```

800

FIG. 8

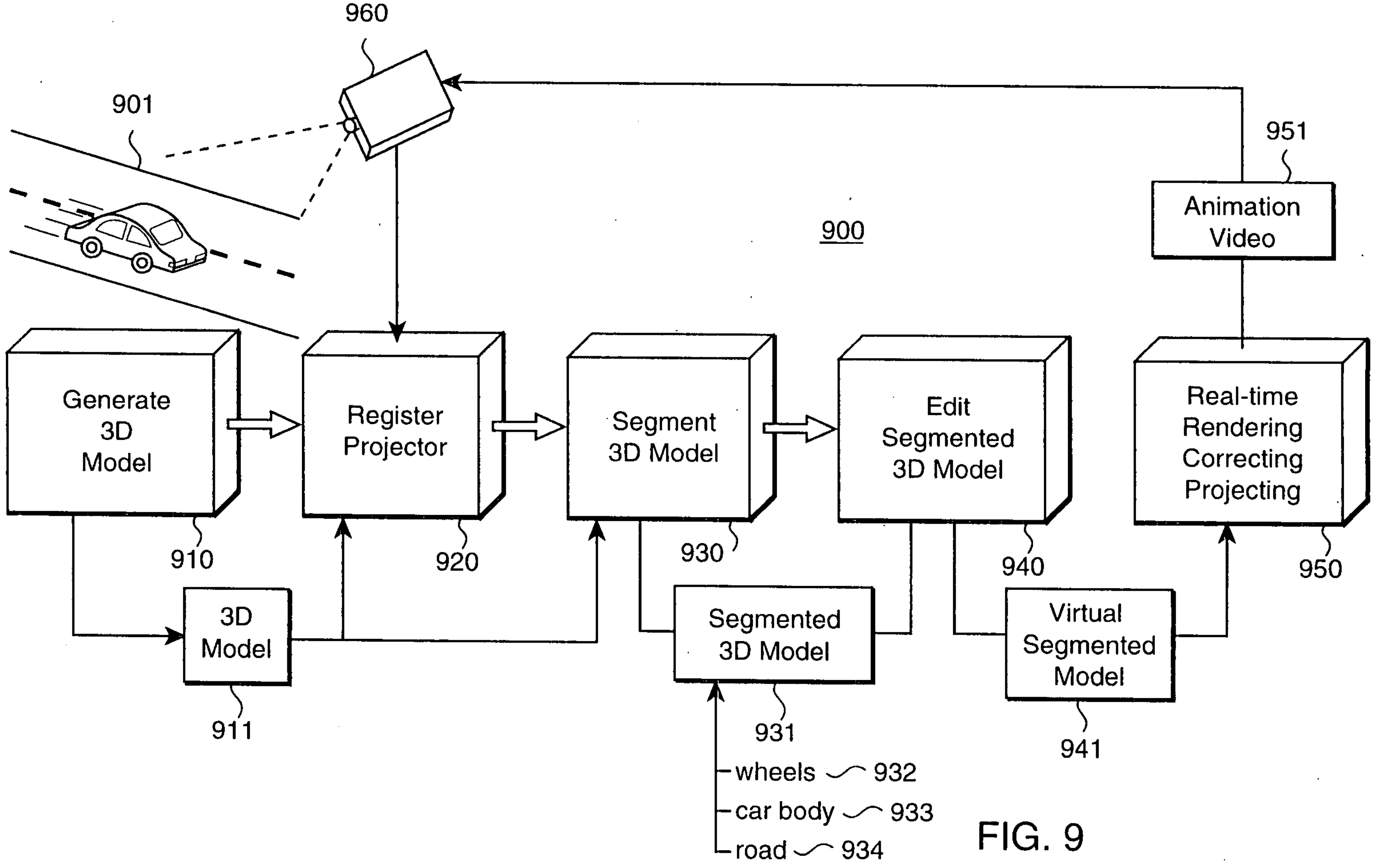
960
901
900
951
Animation Video
Generate 3D Model
Register Projector
Segment 3D Model
Edit Segmented 3D Model
Real-time Rendering Correcting Projecting
910
920
930
940
950
3D Model
911
Segmented 3D Model
931
Virtual Segmented Model
941
wheels 932
car body 933
road 934

FIG. 9